

FRUNZE, T.M.; KORSHAK, V.V.; ANDREYEV, D.N.; KUKHARSKAYA, E.V.

Heterochain polyamides. Part 16: Polyamides containing siloxane groups in the main chain. Vysokom.sond. 1 no.4:489-494  
Ap '59. (MIRA 12:9)

1. Institut elementoorganicheskikh soyedineniy An SSSR, i Institut khimii silikatov AN SSSR.  
(Amides)

ANDREYEV, D. A.

11/15  
504/10-000000/15

Author: Savin, P. I., Petrov, A. D., Melnikova, M. V.,  
Mashcheykova, A. P., Kuznetsov, V. P.,  
Vet. S. S., Andreyev, D. A.

Title: Viscosity of Hydrocarbons at Low Temperatures

Periodical: Khimiya i tekhnologiya topliv i mazut, 1973, No. 2,  
pp 11-15 (USSR)

Abstract: The viscosity of 50 different hydrocarbons at various temperatures was measured. The experimental data were plotted in Fig. 1 and 2. The experimental data are: (1) n-octane; (2) n-hexadecane; (3) heptadecane; (4) n-octadecane; (5) decalin; (6) dodecane; (7) tetralin; (8) naphthalene; (9) isooctane; (10) triethylmethane; (11) polyisobutylene, fraction 150 to 200 g/l mm; (12) polyisobutylene, fraction 150 to 200 g/l mm; (13) the same after hydrogenation; (14) polyethylene; (15) polystyrene, fraction 100 to 200 g/l mm.

Card 1/5

Association: Institute of Petroleum Chemistry, Academy of Sciences of the USSR (Institute of Organic Chemistry, Moscow, USSR)

Card 5/5

Andreyev, D. N.

82042  
S/062/60/000/02/05/012  
B003/B066

53700

AUTHOR: Andreyev, D. N.

TITLE: Condensation of Dimethyl-dichloro Silane in Silent Discharges

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk  
1960, No. 2, pp. 237 - 243

TEXT: The author condensed the dimethyl-dichloro silane in silent discharges by using a method described in previous papers (Refs. 1, 2), and investigated the composition of the resultant condensate. After fractionation of the reaction product, the individual compounds were identified, among other things, by converting the chlorine-containing substances to silicon hydrocarbons by means of  $\text{CH}_3\text{MgBr}$ , or by determining the molar refraction. The condensate mainly consisted of polymethyl-silane chlorides, the principal chain of which possessed C- and Si-atoms in alternate succession. The yield of the condensate was 68 .. 70 per cent of the initial amount of  $(\text{CH}_3)_2\text{SiCl}_2$ . The following compounds were

Card 1/2

DOLGOV, B.N. [deceased]; KUKHARSKAYA, E.V.; ANDREYEV, D.N.

Organosilicon esters of acrylic and methacrylic acid. Part 2:  
Polymerization and properties of the polymers. Vysokom. soed. 2  
no.10:1463-1465 O '60. (MIRA 13:9)

1. Institut khimii silikatov AN SSSR.  
(Acrylic acid) (Methacrylic acid) (Polymers)

82683

S/079/60/030/008/008/008  
B004/B064

53700

AUTHORS:

Andreyev, D. N., Kukharskaya, E. V.

TITLE:

Organosilicon Esters of Acrylic and Methacrylic Acid.  
I. The Synthesis of Monomers

PERIODICAL:

Zhurnal obshchey khimii, 1960. Vol. 30. No. 8,  
pp. 2782 - 2784

TEXT: The organosilicon esters of acrylic- and methacrylic acid were synthesized according to a procedure already described in a previous paper (Ref. 6) concerning the production of organosilicon esters of propionic and isobutyric acid:  $R_{4-x}SiCl_x + xMOCOC(R')-CH_2$

$\rightarrow R_{4-x}Si[OCOC(R')-CH_2]_x + xMCl$ , ( $R = CH_3$  or  $C_2H_5$ ,  $R' = H$  or  $CH_3$ ,  $M =$  alkaline or alkaline-earth metal). The yields were 30-70%. Inhibitors (hydroquinone, picric acid, etc.) had to be added to the reaction mixture since the esters polymerize easily. The monomers with three acryl- or methacryl radicals could be isolated only by freezing at -50 to -80°C. The reaction with the free acids gave lower yields. The

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82683

Organosilicon Esters of Acrylic- and Metha-  
crylic Acid. I. The Synthesis of Monomers

S/079/60/030/008/008/008  
B004/B064

esters are colorless liquids or crystalline substances with low melting point. They hydrolyze readily. The silicon content was determined by mineralizing with a mixture of concentrated sulfuric and nitric acid, the molecular weight cryoscopically in benzene, the ester numbers by saponification with KOH in diethylene glycol. Synthesis was carried out of: trimethyl silyl acrylate, dimethyl silyl diacrylate, methyl silyl acrylate, as well as the corresponding ethyl compounds and methacrylates. A table gives the physical and analytical data. There are 1 table and 6 references: 3 Soviet, 2 US, and 1 British.

ASSOCIATION: Institut khimii silikatov Akademii nauk SSSR (Institute of Silicate Chemistry of the Academy of Sciences USSR) X

SUBMITTED: July 29, 1959

Card 2/2

83557

S/020/60/134/001/009/021  
B016/B067

5.3700C also 2209,2109

AUTHORS:

Andreyev, D. N.; Kukharukaya, E. V.

TITLE:

Condensation of Tetraalkyl Silanes in a Silent High Voltage Discharge of Sonic Frequency

PERIODICAL:

Doklady Akademii nauk SSSR, 1960, Vol. 134, No. 1, pp. 89-92

TEXT: The authors studied trimethyl-ethyl- and dimethyl-diethyl silane under the conditions mentioned in the title (similar to those mentioned in Ref. 4). A mixture of the vapor of these substances with  $H_2$  was passed through the zone of silent discharge at 6.5 - 6.8 kw and 4,000 cps. Among the reaction products of trimethyl-ethyl silane the authors identified the following compounds: gaseous compounds: ethylene and acetylene; liquid compounds: tetramethyl silane (I), hexamethyl-disil ethane (II), 3,3,5,5-tetramethyl-3,5-disilohexane (III), and 3,3,4,5,5-pentamethyl-3,5-disilohexane (IV). Furthermore, silicon hydrocarbons with an empirical formula  $C_{12}H_{32}Si_3$  (V) were detected in higher-boiling products. They formed an

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83557

Condensation of Tetraalkyl Silanes in a Silent  
High-voltage Discharge of Sonic Frequency

S/020/60/134/001/009/021  
B016/B067

isomeric mixture difficult to separate. The high-molecular polymers with a boiling point  $>220^{\circ}\text{C}$  had an average molecular weight of 1590, and corresponded to the composition  $(\text{C}_{3.8}\text{H}_{9.5}\text{Si})_x$ . The ratio C/Si in the condensation products was considerably lower than in the initial  $(\text{CH}_3)_3\text{SiC}_2\text{H}_5$ ; it decreased monotonously from 5 : 1 to 3.9 : 1. The authors conclude therefore that the polycondensation process which they succeeded in bringing about is no simple dehydrogenating condensation by separation of the C-H bonds but that it is much more complicated due to the rupture either of the Si-CH<sub>3</sub> or the Si-C<sub>2</sub>H<sub>5</sub> bonds. The authors proved that the resistance of the C-C bonds in the ethyl radical to dissociation is sufficiently high so that they are not subject to ruptures with mentioning in the experiments described here. The authors regard the dissociation of the Si-C bonds as the primary effect under the action of discharge. Further transformations of the methyl- and ethyl radicals lead to the formation of  $\text{C}_2\text{H}_2$ ,  $\text{C}_2\text{H}_4$ , and  $\text{H}^{\bullet}$ . The lack of compounds with a Si-Si bond in the condensate suggests that no recombination takes place among the organosilicon radicals. A. A. Balandin, Ya. G. Eyduz, and N. G. Zalogin

Chem 1/4



83557

Condensation of Tetraalkyl Silanes in a Silent  
Electrolytic Discharge of Sonic Frequency

S/020/60/134/001/009/021  
B016/B067

ASSOCIATION: Institut khimii silikatev Akademii nauk SSSR  
(Institute of Silicate Chemistry of the Academy of Sciences,  
USSR)

PRESENTED: April 26, 1960, by A. A. Barandin, Academician

DATE: April 26, 1960

84637

S/O20/60/134/004/011/023  
B016/B060

15.8114

AUTHORS: Andreyev, D. N. and Kukhar'skaya, E. V.

TITLE: Condensation of Hexamethyl Disiloxane in a High-voltage Dark Discharge of Sonic Frequency

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 134, No. 4, pp. 817 - 820

TEXT: The various ways of producing organosilicon compounds with alternating silicon hydrocarbon links ( $-\text{Si}(\text{CH}_2)_n-\text{Si}-$ ) and siloxane links ( $-\text{Si}-\text{O}-\text{Si}-$ ) are inadequate in several respects. In view of this fact, the authors thought of bringing about a condensation of hexamethyl disiloxane by means of a single passage through the zone of electric discharge. Since the compounds used in the process remain in this zone for only a short time, secondary processes were expected to be eliminated to a large extent. The discharge tube was fed with a current of 4000 periods per sec. The procedure applied by the authors ensured good yields of low-molecular condensation products: voltage 50 kv, throughput 8 - 9 ml/h. A passage of

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84687

Condensation of Hexamethyl Disiloxane in a S/O2O/60/134/004/011/023  
High-voltage Dark Discharge of Sonic Frequency B016/B060

lower-molecular polymers during interaction with  $\dot{H}$  or  $\dot{CH}_3$ , or due to the cleavage of individual bonds in low-molecular polymers under the direct action of electric discharge. The resulting new radicals are recombined to form higher-molecular compounds. The presence of octamethyl trisiloxane in the reaction products gives evidence of a partial cleavage of the Si-O bonds. Octamethyl trisiloxane is probably the product of a recombination of two radicals (see Scheme (I)). The polycondensation carried out by the authors is accompanied by a partial but moderate demethylation ( $C/Si = 2.5 - 2.7$ , as against the hexamethyl disiloxane employed, where  $C/Si = 3$ ). The method recommended here may be also used to condense other organosiloxanes. There are 1 figure and 14 references: 7 Soviet, 5 US, and 1 Japanese.

ASSOCIATION: Institut khimii silikatov Akademii nauk SSSR ( Institute of Silicate Chemistry of the Academy of Sciences USSR )

PRESENTED: May 4, 1960, by A. V. Topchiyev, Academician

SUBMITTED: May 4, 1960

Card 3/3

5.3700

37760

S/661/61/000/006/021/081  
D205/D302

AUTHOR: Andreyev, D. N.

TITLE: Condensation of methyl chlorosilanes in a silent electrical discharge

SOURCE: Khimiya i prakticheskoye primeneniye kremneorganicheskikh soyedineniy; trudy konferentsii, no. 6, Doklady, diskussii resheniye. II Vses. Konfer. po khimii i prakt. prim. kremneorg. soyed., Len. 1958. Leningrad. Izd-vo AN SSSR. 1961, 109

TEXT: The behavior of  $\text{SiCl}_4$  (in  $\text{H}_2$  medium) under the influence of a silent discharge at 24 - 25 kV and 25 c/s was investigated earlier, showing that the  $\text{SiCl}_4$  does not suffer changes in these conditions. Recently, in discharges of a 4000 c/s frequency, it was found that  $\text{SiCl}_4$  vapors are condensed with the formation of a mixture of roughly equal amounts of  $\text{Cl}_3\text{SiSiCl}_3$  and  $\text{Cl}_3\text{SiSiCl}_2\cdot\text{SiCl}_3$ .

Card 1/2

Condensation of methyl ...

S/661/61/000/006/021/031  
D205/D302

The yield of the octachlorotrisilane is 10% calculated on the initial  $\text{SiCl}_4$  and 40 - 45% on the reacted  $\text{SiCl}_4$ .

ASSOCIATION: Institut khimii silikatov, AN SSSR, Leningrad (Institute of Silicate Chemistry, AS USSR, Leningrad)

Card 2/2

25369

5 3700

S/079/61/031/008/007/009  
D215/D304

AUTHORS: Andreyev, D.N., and Lyutyy, V.P.

TITLE: Synthesis and properties of silicon organic complex esters

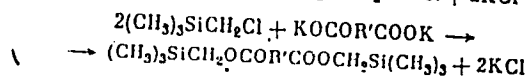
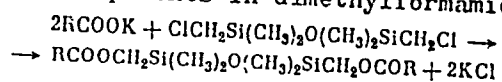
PERIODICAL: Zhurnal obshchey khimii, v. 31, no. 8, 1961, 2726-2729

TEXT: The authors undertook this experimental work on the supposition that these complex silicon compounds could be as useful as similar normal organic ones. They obtained nine new esters from alkali salts of higher aliphatic and aromatic acids and halogen derivatives of alkyl-silanes, and siloxanes by heating the components in dimethylformamide, according to the following schemes

The constants of obtained di-  
esters are given in the Table.

(see next card)

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Synthesis and properties...

S/079/61/031/008/007/009  
D215/D304

(1) Константы полученных диэфиров представлены в таблице.

(2) N п.п.	(3) Формула	Температура кипения (дан- ление в мм)	Темпера- тура за- стывания или плав- ления	$n_D^{20}$	$d_4^{20}$	(4) $M R_D$	
						изм. лено	вычи- слено
(I)	$[(CH_3)_3SiCH_2COOCH_2Si(CH_3)_2]_2O$	143° (4)	—29°	1.4255	0.9850	79.63	80.24
(II)	$[(CH_3)_3SiCH_2COOCH_2Si(CH_3)_2]_2O$	142 (2)	Шкала-71	1.4250	0.9632	88.80	89.50
(III)	$[C_6H_5COOCH_2Si(CH_3)_2]_2O$	231 (2)	—45 (стекло)	1.5115	1.0905	110.67	110.20
(IV)	$[(CH_3)_3SiCH_2OOCCH_2]_2$	128 (1)	—23	1.4382	0.9548	79.90	80.49
(V)	$[(CH_3)_3SiCH_2OOCCH_2Cl]_2$	175—176 (5)	—26	1.4419	0.9497	88.74	89.75
(VI)	$[(CH_3)_3SiCH_2OOC(CH_2)_3CH_3]_2$	218 (14)	—70 (стекло)	1.4446	0.9325	102.85	103.64
(VII)	$[(CH_3)_3SiCH_2OOC(CH_2)_4]_2$	201—202 (6)	—28	1.4443	0.9261	107.53	108.27
(VIII)	$[(CH_3)_3SiCH_2OOC]_2C_6H_5$	185 (7)	—	1.4973	1.0277	96.44	95.94
(IX)	$[(CH_3)_3SiCH_2OOC]_2C_6H_5$	—	115—116	—	—	—	—

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(For Legend of the Table see next card)

Synthesis and properties...

-25369  
S/079/61/031/008/007/009  
D215/D304

Legend of the Table:

- 
- (1) Constants of the obtained diesters.  
 (2) N N (3) Formula (4) b.p. (5) temp. of (6)  $n_D^{20}$  (7)  $d_4^{20}$   
 (pressure in mm) solidifi-  
 cation or  
 m.p.  
 (8)  $MR_D$   
 found/calculated.
- 

They observed that the reactivity of potassium salts of dibasic acids increased markedly with their molecular weight increase, in the series: succinic < adipic < azelaic. It was also observed that whilst determining solidification temperatures of the new esters, they often

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Synthesis and properties...

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S/079/61/031/008/007/039  
D215/D304

became overcooled, crystallizing afterwards spontaneously. For these esters (N I, IV, V and VII) approximate m.p. were evaluated from cooling curves. Diesters with even carbon numbers crystallize in a narrow temperature range: from  $-23$  to  $-28^{\circ}$  C. The azelaic acid ester sets at  $-70^{\circ}$  C to a glassy substance; among diesters with soloxanic bond onyl NI crystallizes by cooling, N III solidifying to a glassy substance, and the di-isobutyrate (N II) stays liquid even at  $-70^{\circ}$  C. There are 1 table and 10 references: 3 Soviet-bloc and 7 non-Soviet-bloc. The references to the English-language publications read as follows: - T.L. Speier, B.F. Daubert, R.R. Gregor, Y.Am.Chem. Soc. 71, 1474, (1949); R.L. Merker, T.E. Noll, Y. Org. Ch. 21, 1537, (1956); L.H. Sommer, W.D. English, G.R. Ansul, D.N. Vivona, S.Am. Chem. Soc. 77, 2485 (1955); L.H. Sommer, N.S. Marans, G.M. Godberg and others, S. Am. Chem. Soc. 73, 882, (1951).

ASSOCIATION: Institut khimii silikatov akademii nauk SSSR (Institute of Silicates, Academy of Sciences USSR)

SUBMITTED: August 5, 1960

Card 4/4

15 7140

27067  
S/080/61/034/003/007/017  
A057/A129

AUTHORS: Andreyev, D. N., Okhrimenko, I. S., Pinchuk, A. Ye., Lyutyy, V. P.

TITLE: Unsaturated organosilicon polyesters and the properties of lacquers on this base

PERIODICAL: Zhurnal prikladnoy khimii, v. 34, no. 3, 1961, 584 - 588

TEXT: Syntheses of two new polyfumarates, modified with siloxane links, viz., the diester bis(trimethylsilylmethyl)fumarate and the polyester poly(dimethylene-tetramethyldisiloxane)fumarate are described and preliminary results in investigations of their properties are given. Polymaleates and polyfumarates are widely used in the manufacture of lacquers, plastics etc. M. A. Bulatov and S. S. Spasskiy [Ref. 1: Vysokomol. soyed., 2, 5, 658 (1960)] demonstrated already that these esters, when modified with organosiloxanes, as for instance with dimethyldiethoxysilane, obtain high technical properties. Organosiloxane polymaleates and polyfumarates, derivatives of organosiloxane and glycols containing a siloxane link in the molecule, hav. not been synthesized. Thus the present authors started investigations in this field. To develop the synthesis of the polyester, the synthesis of the diester was carried out first according to the reaction  $2(\text{CH}_3)_3\text{SiCH}_2\text{Cl} +$

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Unsaturated organosilicon polyesters and the...

27067

S/080/61/034/003/007/017

A057/A129

+  $\text{KOOCCH=CHCOOK} \rightarrow (\text{CH}_3)_3\text{SiCH}_2\text{OOCCH=CHCOOCH}_2\text{Si}(\text{CH}_3)_3$ . In the procedure 0.16 mole of potassium fumarate was mixed with 0.08 mole of fumaric acid in 150 ml of dimethylformamide as solvent. The mixture was boiled, agitated during 30 minutes, dropwise 0.32 mole chloromethyltrimethylsilane was added, heated, agitated for 20 hrs more, while the boiling temperature rose from 124°C to 149°C. After cooling the precipitated potassium chloride was filtered off, the solvent was removed by vacuum distillation and the residue was treated with a soda solution and water-benzene mixture. Then the benzene was dried, evaporated and the fumarate was vacuum-distilled (151°-153°C, 8 torr). The yield was 54.8% of a product with  $n_D^{20}$  1.4548,  $d_4^{20}$  0.9805. In an analogous way the polyester was prepared. Potassium fumarate of 0.5 mole was mixed with 0.125 mole of fumaric acid in 300 ml of dimethylformamide and then bis(chloromethyl)tetramethyldisiloxane was added. Instead of benzene ether was used as solvent and after removal of the latter a highly viscous reddish-brown substance insoluble in water but soluble in most organic solvents, except petroleum ether and gasoline, was obtained. The average molecular weight was found to be 2,400 corresponding to a condensation degree of 9. The re-precipitated polyester was investigated by spectrophotometry on an MKC-12 (IKS-12) apparatus. The obtained infrared absorption spectrum proved the presence of double bonds in the trans-

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Unsaturated organosilicon polyesters and the...

27067  
S/080/61/034/003/007/017  
A057/A129

position (900 - 990  $\text{cm}^{-1}$ , 1,320  $\text{cm}^{-1}$ ), siloxane bonds (1,020 - 1,091  $\text{cm}^{-1}$ ),  $(\text{CH}_3)_2\text{Si}$  groups (800 - 814  $\text{cm}^{-1}$ , and 1,259  $\text{cm}^{-1}$ ), ester groups characteristic for fumarates (1,140 - 1,180  $\text{cm}^{-1}$ ) and end-carboxylic groups (900 - 950  $\text{cm}^{-1}$ ). The obtained polyester is miscible with styrene within a range from 3.5 : 1 to 0.3 : 1, and transparent homogeneous solutions are obtained. Properties of four lacquers (see table) based on this polyester were investigated and it was observed that in comparison with maleic resins the double bonds in siloxane-modified fumaric resin show lower activity. Thus a lacquer based on this resin required heating to 200°C to "dry" within 30 minutes, i.e., to produce a three-dimensional structuration to 70% (Fig. 3). At 120°C the same degree of structuration requires 7 hrs (Fig. 2). The drying is the result of two independent processes: 1) a catalytic polymerization with an initiator (1% of cyclohexanone peroxide), and 2) an oxidative structuration produced by heating over 100°C. No initiator seems to be necessary for the latter process. Elasticity tests carried out by the NIILK method and hardness tests on a ГИИ-4 (GIPI-4) machine showed that films obtained from these lacquers have high elasticity, but rather low hardness. Thus lacquer no. III showed after 70 minutes of drying at 200°C a 1 mm flexibility on a rod and a 0.195 hardness. There are 3 figures, 1 table, and 2 Soviet-bloc references.

SUBMITTED: July 9, 1960

Card 3/5

3c:Ond

S/079/62/032/004/005/010  
D204/D301

15.8170

AUTHORS: Andreyev, D.N., Dolgov, B.N. (Deceased) and Butts, S.V.

TITLE: Stability of the Si-R bonds in  $\gamma$ -silico-organic acids

PERIODICAL: Zhurnal obshchey khimii, v. 32, no. 4, 1962, 1275-1277

TEXT: The action of conc.  $H_2SO_4$  on methyl-di(n-amyl)-silyl-propionic acid showed that the Si-n-Am bond is slightly more stable than the Si-iso-Am bonds studied in an earlier work. Complete fission of this bond occurred on heating with  $H_2SO_4$  to 700°C, over 1 hr.

and keeping it for a further hour at that temperature, with stirring, to give  $[HOOC.CH_2CH_2Si(n-C_5H_{11})CH_3]_2O$ , (A). Including earlier results, the authors therefore concluded that stability of Si-C towards conc.  $H_2SO_4$  in acids of the general formula  $R_2(CH_3)SiCH_2CH_2$

COOH decreases in the order Et, n-Pr > Me > n-Am > n-Bu, iso-Am. Synthesis of  $CH_3(PhCH_2)_2SiCH_2CH_2COOH$  was attempted to find whether the Si- $CH_2X$  bond would be as stabilized by substituting Ph into the

Card 1/2

Stability of the Si-R bonds in ...

S/079/62/032/004/005/010  
D204/D301

$\text{CH}_3$  group as it is by substitution with halogens, but both benzyl groups were found to break off the Si during alkaline hydrolysis of the methyl-dibenzyl-silyl-methyl malonate. Preparation of new compounds  $\text{CH}_3(\text{n-C}_5\text{H}_{11})_2\text{SiCH}_2\text{Cl}$ ,  $\text{CH}_3(\text{PhCH}_2)_2\text{SiCH}_2\text{Cl}$ ,  $\text{CH}_3(\text{n-C}_5\text{H}_{11})_2\text{SiCH}_2\text{CH}(\text{COOEt})_2$ ,  $\text{CH}_3(\text{PhCH}_2)_2\text{SiCH}_2\text{CH}(\text{COOEt})_2$ ,  $\text{CH}_3(\text{n-C}_5\text{H}_{11})_2\text{SiCH}_2\text{CH}_2\text{COOH}$  and A is described and their physical properties are tabulated. There are 1 table and 4 references: 3 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: L.H. Sommer, W.P. Barie, and J. Gould, J. Am. Chem. Soc., 75, 3765, 1953. X

ASSOCIATION: Institut khimii silikatov Akademii nauk SSSR (Institute of Silicate Chemistry of the Academy of Sciences, USSR)

SUBMITTED: April 19, 1960

Card 2/2

16.0170

S/079/62/032/004/009/010  
D287/D301

AUTHORS: Andreyev, D.N., and Kukharekaya, E.V.

TITLE: Organosilicon diethers and diesters of organosilicon acids

PERIODICAL: Zhurnal obshchey khimii, v. 32, no. 4, 1962, 1353-1354

TEXT: The authors found that the title compounds can be readily prepared by condensing the K or Na salts of  $\gamma$ -organosilicon acids with  $R_3SiCl_{4-n}$ ; mono- and dibasic  $\gamma$ -organosilicon acids enter into this reaction. The condensation reaction was carried out by heating the components in hydrocarbon solvents.  $[(CH_3)_3SiCH_2CH_2COO]_2Si(CH_3)_2$  (yield 59 %) and  $[(CH_3)_3SiOCOCH_2CH_2Si(CH_3)_2]_2O$  (Yield: 36 %) were prepared by this method. Physical constants of the 2 compounds are given. There are 2 references: 1 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: A.G. Brook, J. Am. Chem. Soc., v. 77, 1955, 4827.

Card 1/2

Organosilicon diethers and ...

S/079/62/032/004/009/010  
D287/D301

ASSOCIATION: Institut khimii silikatov Akademii nauk SSSR (Institute for Silicate Chemistry of the AS USSR)

SUBMITTED: December 22, 1961

Card 2/2



S/079/62/032/004/008/010  
D287/D301

X 8070

AUTHORS: Andreyev, D.N., and Kukharskaya, E.V.TITLE: Interaction of organomagnesium complexes with  
organosilicon esters

PERIODICAL: Zhurnal obshchey khimii, v. 32, no. 4, 1962, 1352-1353

TEXT: The present work was carried out because of the absence of information on the interaction between organosilicon esters and Grignard reagents, especially between compounds of the formula  $\text{RMgX}$  with alkyl acyloxysilanes  $(\text{R}'\text{Si}(\text{OCOR}')')_{4-n}$  where  $n = 1-3$ . The above compounds were found to form tertiary alcohols on reaction with  $\text{C}_2\text{H}_5\text{MgBr}$  as proved for trimethylsilyl propionate (I) and diethylsilyl dipropionate (II). Both compounds were synthesized in the usual way. In the first case 68 g of compound I was added to the Grignard reagent; the yield of 3-ethyl-3-pentanol was 32.9 %. This compound could be dehydrated to 3-ethyl-2-pentene by heating with anhydrous  $\text{CuSO}_4$ . In the second experiment 84 g of compound II was added to

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Interaction of organomagnesium ...

S/079/62/032/004/008/010  
D287/D301

the Grignard reagent; the alcohol was obtained with 42.5 % yield. Physical constants of the synthesized compounds are given and compared with literature data. There are 3 non-Soviet-bloc references: The references to the English-language publications read as follows: A.A. Morton and J.R. Stevens, J. Am. Chem. Soc., v. 55, 1951, 2244; G. Egloff, Physical Constants of Hydrocarbons, v. 1, 1939, 207; M. Etienne, C.T., 235, 967, 1952.

ASSOCIATION: Institut Khimii silikatov Akademii nauk SSSR (Institute for Silicate Chemistry of the Academy of Sciences of the USSR)

SUBMITTED: December 22, 1961

Card 2/2

ANDREYEV, D.N., kand. khim. nauk, otv. red.

[Laboratory chemical equipment] Laboratornaia khimicheskaya posuda. Moskva, Izd-vo AN SSSR, 1963. 327 p.

(MIRA 17:2)

1. Akademiya nauk SSSR. Tsentral'noye upravleniye snabzheniya.

ANDREYEV, D.N.; LYUTYY, V.P.

Synthesis of phenyltrichlorosilane in silent discharge.  
Zhur. prikl. khim. 36 no.9:2096 D '63. (MIRA 17:1)

ANDREYEV, D.N.; KUKHARSKAYA, E.V.

Condensation of silicon tetrachloride in silent discharges.  
Zhur. prikl. khim. 36 no.10:2309-2311 0 '63.

(MIRA 17:1)

1. Institut khimii silikatov AN SSSR.

L 40700-65 KPE(c)/EWP(j)/EWT(a)/T Po-4/Pr-4 RM

ACCESSION NR: AP5010794

UR/0079/65/035/004/0756/0756

AUTHOR: Andreyev, D. N.; Usacheva, N. T.

23

22

P

TITLE: Synthesis of  $\alpha,\omega$ -dimethacryloxypolydimethylsiloxanes

SOURCE: Zhurnal obshchey khimii, v. 35, no. 4, 1965, 756

TOPIC TAGS: polymer, polydimethylsiloxane, siloxane, methacrylate copolymer

ABSTRACT: The only known silicon-containing derivatives of acrylic acid with acyl groups at the silicon atom are compounds of the type  $R_nSi[OCO(CH_3)C-CH_2]_{n-n'}$ , where  $R = CH_3, C_2H_5,$  or  $C_2H_5O$ . It was shown that the reaction of the sodium or potassium salt of methacrylic acid with  $\alpha,\omega$ -dichloropolydimethylsiloxanes,  $ClSi(CH_3)_2[OSi(CH_3)_2]_nCl$  ( $n = 1, 2, 3, 4$ ), produces the corresponding dimethacrylates in good yield. The dry salt was mixed at room temperature with the  $\alpha,\omega$ -dichloride in petroleum ether or some other hydrocarbon, in the presence of conventional inhibitors of free-radical polymerization. The four dimethacrylates obtained had boiling points ranging from 88 to 134.5°C (1 mm); they are colorless liquids which are easily hydrolyzed and polymerize to colorless, transparent solids. The monomers can copolymerize with various organic monomers of the vinyl type to form transparent, solid copolymers. Orig. art. has: 1 table. [VS]

Card 1/2

L 40700-65

ACCESSION NR: AP5010794

ASSOCIATION: Institut vysokomolekulyarnykh soyedineniy Akademii nauk SSSR (Institute of Macromolecular Compounds, Academy of Sciences, SSSR)

SUBMITTED: 13JUN 64

ENCL: 00

SUB CODE: OC,GC

NO REF SOV: 001

OTHER: 001

ATD PRESS: 3231

Card 2/2 *no*

L 44564-66 EWT(m)/EWP(j) RM

ACC NR: AP6031381

SOURCE CODE: UR/0079/66/036/009/1628/1633

AUTHOR: Andreyev, D. N.; Afanas'yeva, G. S.

24

ORG: Institute of Macromolecular Compounds, Academy of Sciences, SSSR (Institut vysokomolekulyarnykh soyedineniy Akademii nauk SSSR)

B

TITLE: Organosilicon polyamides. I. Synthesis of dicarboxylic aliphatic organosilicon acids

SOURCE: Zhurnal obshchey khimii, v. 36, no. 9, 1966, 1628-1633

TOPIC TAGS: organosilicon compound, ~~organosilicon~~ polyamide, ~~organosilicon~~ dicarboxylic acid

ABSTRACT: This article is the first in a series on the study of organosilicon polyamides. Some polyamides from dicarboxylic acids which contain siloxane links in their chain are known. Polyamides from a dicarboxylic acid with one silicon atom in its chain are mentioned in the literature, but not described. Synthesis of two silicon-containing dicarboxylic acids was prompted by the desire to study the effect of the length of the acid chain on the properties of the polyamides obtained from such acids. The general formula of these acids was  $(CH_3)_2Si/(CH_2)_nCOOH/2$ . The first of the synthesized acids, with  $n = 2$ , namely, 4,4-dimethyl-4-silaheptane-1,7-dicarboxylic

Card 1/2

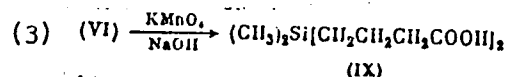
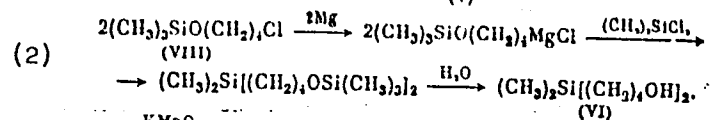
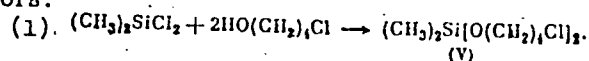
UDC: 547.245+547.461



L 44564-66

ACC NR: AP6031381

acid was prepared according to the available literature data. Another acid 5,5-dimethyl-5-silanonane-1,9-dicarboxylic acid was obtained by a new method, developed by the authors:



The yield of the final stage was 38%. The structure of the final product and of the intermediates was confirmed by IR spectra. Orig. art. has: 6 formulas, 1 table, and 1 figure. [BN]

SUB CODE: 07, 11/ SUBM DATE: 10Jul65/ ORIG REF: 004/ OTH REF: 009/ ATD PRESS: 5080

Card 2/2 *lgm*

PAVLOV, V.V.; ANDREYEV, D.P.

Operative treatment in acute stages of Werlhof's disease. Zdrav.  
Kazakh. 21 no.8:70-71 '61. (MIRA 14:9)

1. Iz Severo-Kazakhstanskoy oblastnoy bol'nitsy.  
(PURPURA (PATHOLOGY))

ANDREYEV, D.P.

Case of perforating ulcer of the duodenum. Zdrav. Kazakh. 21 no;9:  
71-72 '61. (MIRA 14:10)

1. Iz gorodskoy ob'yedinennoy bol'nitsy (glavnyy vrach - M.G.Kosenko)  
g.Petropavlovsk.  
(DUODENUM--ULCERS)

ANDREYEV, D.P.

Torsion of the omentum. Zdrav.Kazakh. 22 no.3:57-59 '62.

1. Iz 2-y gorodskoy bol'nitsy g. Petropavlovsk. (MIRA 15:12)  
(OMENTUM--DISEASES)

ANDREYEV, D.P.

Mechel's diverticulum. Zdrav. Kazakh. 22 no.5:71-72 '62.

(MIRA 15:6)

1. Iz 1-y gorodskoy ob'yedinennoy bol'nitsy g. Petropavlovsk.  
(ILEUM)

ACC NR: AP6035859

SOURCE CODE: UR/0413/66/000/020/0064/0064

INVENTOR: Andreyev, D. P.; Gak, I. I.; Kozlov, V. K.

ORG: none

TITLE: Waveguide filter.<sup>25</sup> Class 21, No. 187110

SOURCE: Izobreteniya, promyshlennyye tovarnyye znaki, no. 20, 1966, 64

TOPIC TAGS: waveguide filter, electronic component

ABSTRACT: An Author Certificate has been issued for a waveguide filter containing a rectangular waveguide which is bounded by capacitive and inductive windows and a tuning stub (see Fig. 1). To retune the filter while pressing a constant transmission

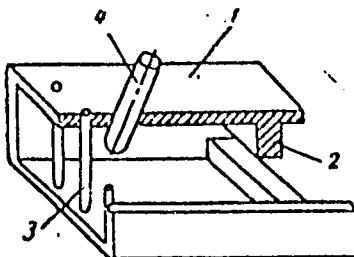


Fig. 1. Waveguide Filter

1 - Waveguide; 2 - capacitive window; 4 - stub.

Cord 1/2

UDC: 621.372.852.15

ACC NR: AP6035859

band, the stub is displaced from the center toward the inductive window and is inclined in such a way that its end approaches the inductive window during the insertion into the filter. Orig. art. has: 1 figure.

SUB CODE: 09/ SUBM DATE: 05Aug65/ ATD PRESS: 5106

Card 2/2.

ANDREYEV D. S.

Calculation of cross sections for nitrogen ions. D. S. Andreyev, D. S. Andreyev, D. S. Andreyev, and L. K. Andreyev. (Submitted: 1964, 1965, and 1966). U.S.S.R. Academy of Sciences, Moscow, U.S.S.R. 1967. The calculation of cross sections for nitrogen ions is carried out by means of the method of partial waves. It is shown that in many instances it is more profitable to use heavy ions than protons for Coulomb excitation studies. Preliminary results with 15.6 MeV  $N^{14}$  ions are as follows:  $^{12}C(12, 205)$ ;  $^{13}C(13, 205)$ ;  $^{14}N(14, 205)$ ;  $^{15}N(15, 205)$ ;  $^{16}O(16, 205)$ ;  $^{17}O(17, 205)$ ;  $^{18}O(18, 205)$ ;  $^{19}F(19, 205)$ ;  $^{20}Ne(20, 205)$ ;  $^{21}Ne(21, 205)$ ;  $^{22}Ne(22, 205)$ ;  $^{23}Ne(23, 205)$ ;  $^{24}Mg(24, 205)$ ;  $^{25}Mg(25, 205)$ ;  $^{26}Mg(26, 205)$ ;  $^{27}Al(27, 205)$ ;  $^{28}Si(28, 205)$ ;  $^{29}Si(29, 205)$ ;  $^{30}Si(30, 205)$ ;  $^{31}P(31, 205)$ ;  $^{32}S(32, 205)$ ;  $^{33}S(33, 205)$ ;  $^{34}S(34, 205)$ ;  $^{36}S(36, 205)$ ;  $^{38}S(38, 205)$ ;  $^{40}Ar(40, 205)$ ;  $^{42}Ar(42, 205)$ ;  $^{44}Ar(44, 205)$ ;  $^{46}Ar(46, 205)$ ;  $^{48}Ar(48, 205)$ ;  $^{50}Ar(50, 205)$ ;  $^{52}Cr(52, 205)$ ;  $^{54}Cr(54, 205)$ ;  $^{56}Cr(56, 205)$ ;  $^{58}Fe(58, 205)$ ;  $^{60}Fe(60, 205)$ ;  $^{62}Fe(62, 205)$ ;  $^{64}Fe(64, 205)$ ;  $^{66}Fe(66, 205)$ ;  $^{68}Zn(68, 205)$ ;  $^{70}Zn(70, 205)$ ;  $^{72}Zn(72, 205)$ ;  $^{74}Zn(74, 205)$ ;  $^{76}Zn(76, 205)$ ; 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ANDREY, D.S.

Coulomb excitation of nuclei by nitrogen ions. D. G. Arkharov, D. S. Andrey, A. P. Grinberg, and I. Kh. Lemberg. *Zh. Eksp. i Teor. Fiz.* 30, 809-11 (1966). Curves are presented for the x-ray K-line of Ta<sup>2+</sup> and the  $\gamma$ -rays for excitation with 138- and 301-e.v. N ions; also for  $\gamma$ -rays with N ions of energies from 138 to 1200 e.v. Other elements which underwent a Coulomb excitation were Mo<sup>2+</sup> and Mo<sup>3+</sup>, W, Na<sup>2+</sup>, V<sup>2+</sup>, Ge<sup>2+</sup>, Se<sup>2+</sup>, Rh<sup>2+</sup>, Ag, Cd, In<sup>2+</sup>, Ir, W, Au<sup>2+</sup>, Pb<sup>2+</sup>. No Coulomb excitation could be brought about by K, Ni, Cu, Sn, or Bi. Werner Jacobson.

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*ANDREYEV, D.S.*

ALKHASOV, D.G., ANDREYEV, D.S., GAL'PERIN, L.N., GRINBERG, A.F., GUSINSKIY, G.M.,  
LEMBERG, Y.Kh., and YEROKHINA, K.I.,

Physical Technical Inst. Acad. Sci. USSR

"Coulomb Excitation of Nuclei (review lecture)

paper submitted at the A-U Conf. on Nuclear Reactions in Low and Medium Energy  
Physics, Moscow, 19-27 Nov 57.

4067  
EXPERIMENTAL STUDY OF COULOMB EXCITATION OF  
NUCLEI BY NITROGEN IONS. D. G. Adnasy, D. E.  
Adnasy, A. P. Orlovsky and I. Ya. Lemberg (Academy of  
Sciences, USSR). Soviet Phys. JETP 3, 884-6 (1957) Jan.  
An experimental investigation was made of the Coulomb  
excitation of the nuclei of 21 elements by nitrogen ions.  
The nitrogen ions were accelerated in a cyclotron to 15.6  
MeV. The targets were pressed into the bottom of an iso-  
lated metallic vessel which served as a Faraday cup. Re-  
sultant data are summarized in both graphical and tabular  
form. (D. G.)

ANDREYEV, D. S.

56-6-6/47

AUTHORS: Alkhazov, D. G., Andreyev, D. S.,  
Yerokhina, K. I., Lemberg, I. Kh.

TITLE: The Coulomb Excitation of Separated Tin Isotopes  
(Kulonovskoye возбуждениye razdelennykh izotopov  
olova).

PERIODICAL: Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, 1957,  
Vol. 33, Nr 6, pp. 1347-1358 (USSR)

ABSTRACT: A 14,5 MeV  $\alpha$ -beam coming from a cyclotron is focused  
by a system of quadrupol lenses in an aluminum tube and  
thus impinges upon a target, where Coulomb excitation takes  
place. The  $\gamma$ -quanta liberated on this occasion are  
measured in a well screened  $\gamma$ -scintillation spectrometer.  
Between the crystal and the target the following  $\gamma$ -absorbers  
are connected:

400  $\mu$ Cu; 1.3 mm Al; 100  $\mu$  mica; 1 mm MgO; 50  $\mu$  Pb

and 1.5 mm air.

The following measuring and computation results were  
obtained:

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The Coulomb Excitation of Separated Tin Isotopes

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isotope	$\Delta E$ in MeV <sup>x</sup> )	$\frac{B(E2)}{e^2} \cdot 10^{48}$ in cm <sup>4</sup>	$\tau \cdot 10^{13}$ in sec.
Sn <sup>112</sup>	1,26	0,18	7,2
Sn <sup>114</sup>	1,30	0,20	5,5
Sn <sup>116</sup>	1,29	0,19	6,0
Sn <sup>118</sup>	1,22	0,19	8,0
Sn <sup>120</sup>	1,18	0,17	10,5
Sn <sup>122</sup>	1,15	0,15	13,5
Sn <sup>124</sup>	1,13	0,14	15,9
Sn <sup>115</sup>	-xx)	-	-
Sn <sup>117</sup>	( 0,865	(0,025	-
	( 1,03	(0,09	-
Sn <sup>119</sup>	0,907	0,11	-

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The Coulomb Excitation of Separated Tin Isotopes

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x) Corresponds to the energy of the  $\gamma$ -quantum which goes directly to the basic state.

xx) Between 0,75 up to 1,75 MeV no  $\gamma$ -quanta were found.

There are 7 figures, 1 table, and 19 references, 4 of which are Slavic.

ASSOCIATION: Leningrad Physico-Technical Institute AN USSR  
(Leningradskiy fiziko-tekhnicheskii institut Akademii nauk SSSR).

SUBMITTED: June 3, 1957 (initially) and October 5, 1957 (after revision)

AVAILABLE: Library of Congress

Card 3/3

ANDREYEV, D. S.: Master Phys-Math Sci (diss) -- "Investigation of the coulomb excitation of dilute lead isotopes". Leningrad, 1958. 14 pp (Phys-Tech Inst Acad Sci USSR), 150 copies (KL, No 5, 1959, 142)



S/048/60/024/012/005/011  
B019/B056

AUTHORS: Andreyev, D. S., Yerokhina, K. I., and Lemberg, I. Kh.

TITLE: Cascade Excitation of the Second Rotational Levels in  
Separated Tungsten Isotopes <sup>27</sup> 19

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1960,  
Vol. 24, No. 12, pp. 1470-1473

TEXT: The present paper was read at the 10th All-Union Conference on  
Nuclear Spectroscopy, which was held in Moscow from January 19 to  
January 27, 1960. By means of Coulomb excitation it was hitherto possible  
to excite even-even nuclei to the first rotational level. The excitation  
to the second rotational level was not possible. Protons and  $\alpha$ -particles  
were used for excitation. In the introduction, the authors discuss several  
results obtained by earlier papers. The experiments described here were  
carried out by means of quadruply-charged Ne<sup>20</sup> ions having an energy of  
27.8 Mev, and by means of quadruply-charged N<sup>20</sup> ions with an energy of  
36 Mev. Four metallic tungsten targets were investigated, of which the

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Cascade Excitation of the Second Rotational  
Levels in Separated Tungsten Isotopes

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first consisted of 87.6%  $W^{182}$ , the second of 90.1%  $W^{183}$ , the third of 91.3%  $W^{184}$ , and the fourth of 96%  $W^{185}$ . The  $\gamma$ -spectrum, which was emitted during the bombardment of the targets with heavy ions, was investigated by the author by means of a scintillation  $\gamma$ -spectrometer. The photo-multiplier pulses were amplified and recorded with a 63-channel amplitude analyzer, which had been developed by LETI. From the experimental results represented in diagrams and a detailed discussion, the authors became convinced that the  $\gamma$ -lines with the energies of 230 kev, 250 kev and 275 kev, which they had observed, represent the result of a double Coulomb excitation of states with the energies of 330, 360 and 400 kev in  $W^{182}$ ,  $W^{184}$  and  $W^{186}$ . Similar results obtained by Newton et al (Ref 6) are mentioned. There are 3 figures, 1 table, and 6 references: 2 Soviet, 2 French, and 2 US.

ASSOCIATION: Fiziko-tekhnicheskiy institut Akademii nauk SSSR (Institute of Physics and Technology of the Academy of Sciences USSR)

Card 2/2

S/048/60/024/012/005/011  
B019/B056

AUTHORS: Andreyev, D. S., Grinberg, A. P., Gusinskiy, G. M.,  
Yerokhina, K. I., and Lemberg, I. Kh. 19

TITLE: Coulomb Excitation of the First Nuclear Levels of Even  
Chromium-Selenium and Neodymium Isotopes 27 19

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1960,  
Vol. 24, No. 12, pp. 1474-1477

TEXT: The present paper was read at the 10th All-Union Conference on  
Nuclear Spectroscopy, which was held in Moscow from January 19 to  
January 27, 1960. The experiments described in the present paper were  
carried out with 16.3-Mev and 36.0-Mev nitrogen ions and 23.2-Mev neon  
ions. Results are given in Table 1. Chromic oxide targets were used, which  
contain the isotopes  $\text{Cr}^{52}$  and  $\text{Cr}^{54}$ , as well as natural, vaporized chromium.  
Further, natural metallic neodymium (23.87%  $\text{Nd}^{144}$ ) was used. The results  
are discussed in great detail and compared with earlier results. There  
are 3 figures, 1 table, and 17 references: 3 Soviet and 14 US.

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1	2	3	4			
Ядро	$\Delta E, \text{MeV}$	Бомбардирующие частицы и их энергия, MeV	Резервный уровень			
			а	б	в	г
Ядро	$\Delta E, \text{MeV}$		Ядро	$\Delta E, \text{MeV}$	$B(E2) \cdot 10^{18}, \text{e}^2/\text{см}^2$	Литература
Cr <sup>50</sup>	0,78	Ne <sup>20</sup> (23,2)	Mo <sup>100</sup>	0,53	0,614	[3]
Cr <sup>52</sup>	1,45	N <sup>14</sup> (36,0)	Ni <sup>58</sup>	1,45	0,080	[1]
Cr <sup>54</sup>	0,84	N <sup>14</sup> (16,3), Ne <sup>20</sup> (23,2)	Ti <sup>48</sup>	0,99	0,070	[4]
Se <sup>78</sup>	0,560	N <sup>14</sup> (36,0), Ne <sup>20</sup> (23,2)	{	Mo <sup>100</sup>	0,53	0,614
Se <sup>78</sup>	0,615	N <sup>14</sup> (36,0), Ne <sup>20</sup> (23,2)				
Se <sup>80</sup>	0,650	N <sup>14</sup> (36,0)				
Se <sup>82</sup>	0,660	N <sup>14</sup> (36,0)				
Ni <sup>114</sup>	0,605	N <sup>14</sup> (36,0)	{	Ti <sup>48</sup>	0,99	0,070
Nd <sup>146</sup>	0,455	N <sup>14</sup> (36,0)				
Nd <sup>148</sup>	0,300	N <sup>14</sup> (36,0)				
Nd <sup>150</sup>	0,130	N <sup>14</sup> (36,0)				
			{	Zr <sup>92,14</sup>	0,92	0,079
			{	Zr <sup>92,14</sup>	0,92	0,079
			{	Rh <sup>113</sup>	0,30	0,21
			{	Ta <sup>181</sup>	0,136	2,04

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5 $B(E2) \uparrow \cdot 10^{14}$ $e^2 \text{cm}^2$	6 $B(E2) \uparrow \cdot 10^{14}$ $e^2 \text{cm}^2$	7 $\tau \cdot 10^{11}, \text{sec}$	8 $F$
0,15		0,9	27
0,062		1,2	10
0,057		1,7	9
0,42	0,43 [7]	1,8	44
	0,45 [8]		
0,36	0,36 [7]	1,3	36
0,23	0,23 [7]	1,5	22
0,19		1,7	18
0,23		1,1	10
0,25	0,25 [9]	8,4	11
0,57	0,69 [9]	30	24
1,92	2,3 [9]	575	80

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S/048/60/024/012/007/011  
B019/B056

AUTHORS: Andreyev, D. S., Yerokhina, K. I., and Lemberg, I. Kh.

TITLE: The Coulomb Excitation of the  $\text{Ne}^{21}$  Nucleus

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1960,  
Vol. 24, No. 12, pp. 1478-1479

TEXT: The present paper was read at the 10th All-Union Conference on Nuclear Spectroscopy, which was held in Moscow from January 19 to January 27, 1960. Report is given in the present paper on the results obtained by experiments, in which the first level of  $\text{Ne}^{21}$  was excited. The  $\gamma$ -emission of graphite, aluminum, and molybdenum targets was studied during their bombardment with  $\text{Ne}^{21}$  ions, whose energy was 24.2 Mev. In all cases a  $\gamma$ -line with 0.35 Mev was found. The authors arrive at the conclusion that these lines, which are known already from previous papers, are not the result of a nuclear reaction but of a Coulomb excitation of  $\text{Ne}^{21}$ . From publications it is known that the quantum characteristics for the  $\text{Ne}^{21}$  ground state are  $3/2^+$ , and for the first excited state  $5/2^+$  or  $5/2^-$ . Thus,  
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The Coulomb Excitation of the  $\text{Ne}^{21}$  Nucleus

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B019/B056

the authors obtained  $0.025 \cdot 10^{-48} \text{e}^2 \text{cm}^4$  or  $0.017 \cdot 10^{-48} \text{e}^2 \text{cm}^4$  for the probability  $B(E2)$  of a transition from the ground state to the first excited state. For the partial lifetime of the first excited state one thus obtains  $6.3 \cdot 10^{-10} \text{ sec}$  or  $9.2 \cdot 10^{-10} \text{ sec}$ . The authors thank A.B. Girshin for the faultless operation of the cyclotron. There are 1 figure and 8 references: 3 Soviet, 4 US. and 1 Danish ✓

ASSOCIATION: Fiziko-tekhnicheskii institut Akademii nauk SSSR (Institute of Physics and Technology of the Academy of Sciences USSR)

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89247

S/048/61/025/001/013/031  
B029/B060

24.6520(1138, 1395, 1160)

AUTHORS: Andreyev, D. S., Grinberg, A. P., Yerokhina, K. I.,  
Lemberg, I. Kh.

TITLE: Coulomb excitation of the nuclear levels of  $P^{31}$ ,  $S^{33}$ ,  $Mn^{55}$ ,  
and  $Pr^{141}$  by means of  $Ne^{20}$  ions

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, v. 25,  
no. 1, 1961, 70-76

TEXT: The measurements were made by means of a scintillation spectrometer with a NaI-Tl crystal (40 mm in diameter, 40 mm in height) and by means of a photomultiplier of the type ФЭУ-11 (FEU-11). The electronics consisted of a pre-amplifier, a cathode follower, an overchargeable amplifier and an AMA-2 (AMA-2) 63-channel pulse height analyzer connected in parallel and an AI 100-1 (AI 100-1) 100-channel pulse height analyzer. Method of measurement, apparatus, and course of the calculation of the reduced transition probability  $B(E2)$  have already been

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89247

Coulomb excitation of the nuclear levels...

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X

described in three previous papers (Refs. 1-3). In the case of nitrogen ions the errors are below 15%, but they may attain from 20 to 25% for neon ions. The following was observed when measuring the energy of beam particles by means of deflection in a magnetic field: After deflection, the beam is split into several components corresponding to different charges of the accelerated ions. The change of the ratio current strength / number of beam particles in the beam, which means that it influences the accuracy of calculation of the Coulomb excitation cross section. In the experiments concerned, the bombarding particles were quadruple-charged Ne<sup>20</sup> ions with energies of 23.2 and 27.8 Mev. The amperage of the ion beam measured on the target was  $\sim 1.10^{-8}$  a. The measurement results are given in the attached Table.  $R_0 = 1.2 \cdot 10^{-13} \text{ A}^{1/3} \text{ cm}$  was set. Figs. 1, 2, 3, 4 show the instrumental  $\gamma$ -spectra taken with Ne<sup>20</sup> ions. The following notes are added concerning the individual elements: p<sup>31</sup>: The Coulomb excitation of the level with  $\Delta E = 1.26 \text{ Mev}$  of p<sup>31</sup> was examined with the aid of ions Ne<sup>20</sup> with an energy of 27.8 Mev. The target was pressed from a red phosphorus powder. The spectrum contains a gamma line with

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Coulomb excitation of the nuclear levels...

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B029/B060

$E = 1.63$  Mev arising by Coulomb excitation of the level with  $\Delta E = 1.63$  Mev in  $\text{Ne}^{20}$ . The value of  $B(E2)_{\uparrow}$  for the 1.26-Mev level of  $\text{P}^{31}$  amounted to  $0.011 \cdot 10^{-48} \text{ e}^2 \text{ cm}^4$ . The spins of the two states of  $\text{P}^{31}$  are known:  $I_0 = 1/2^+$   $I_f = 3/2^+$ .  $\text{S}^{33}$ : In the work under consideration,  $\text{S}^{33}$  was excited by quadruple-charged  $\text{Ne}^{20}$  ions with an energy of 23.2 Mev. The gamma spectrum found contains a line with the energy  $0.83 \pm 0.01$  Mev.  $\text{Mn}^{55}$ : The  $\text{Mn}^{55}$  was likewise excited by quadruple-charged  $\text{Ne}^{20}$  ions with 23.2 Mev. This spectrum contains gamma lines with energies of 0.85 and 0.98 Mev.  $\text{Pr}^{141}$ : Fig. 4 shows the spectrum of gamma rays resulting on the irradiation of praseodymium oxide with quadruple-charged  $\text{Ne}^{20}$  ions (27.8 Mev). The lifetime of the state with  $\Delta E = 0.142$  Mev amounts to  $2 \cdot 10^{-9}$  sec, and its partial lifetime is  $4.3 \cdot 10^{-7}$  sec. The article under consideration is the reproduction of a lecture delivered at the 10th Conference on Nuclear Spectroscopy, which took place in Moscow from January 19 to 27, 1960. There are 4 figures, 1 table, and 24 references: 7 Soviet-bloc and 17 non-Soviet-bloc.

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Coulomb excitation of the nuclear levels...

ASSOCIATION: Fiziko-tekhnicheskiy institut Akademii nauk SSSR (Institute of Physics and Technology, Academy of Sciences USSR)

Ядро	$\Delta E$ , MeV	$\Delta E^*$ , MeV	$\frac{I(E2) +}{E^2} \times 10^{-4}$ , cm <sup>2</sup>	$\tau(E2)$ , сек	$\tau$ , сек	$\tau^*$ , сек	F
<sup>121</sup> Pb	$1.26 \pm 0.02$	1.264 [5]	0.011	$4.8 \cdot 10^{-12}$	$1.0 \cdot 10^{-12}$	—	9.1
<sup>123</sup> Sb	$0.83 \pm 0.01$	$0.844 \pm 0.006$ [6]	0.0010	$5.2 \cdot 10^{-11}$	$\leq 5.2 \cdot 10^{-11}$	—	1.0
		$0.839 \pm 0.005$ [7]					
<sup>55</sup> Mn	$0.98 \pm 0.01$	0.983 [8]	0.012	$(5 \div 13) \cdot 10^{-12}$	—	—	4.0+5
<sup>141</sup> Pr	$0.142 \pm 0.003$	0.142 [9]	0.0036	$4.3 \cdot 10^{-7}$	—	$2 \cdot 10^{-7}$	4.3
						[10, 11]	

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Coulomb excitation of the nuclear levels...

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Legend to the Table:  $\Delta E$ , level energy measured in the experiments,  $\Delta E^*$ , level energy according to results from other papers,  $B(E2)^\uparrow$ , reduced probability of the electric quadrupole excitation of the level,  $\tau(E2)$ , partial lifetime of the level relative to the electric quadrupole transition of the nucleus into the ground state,  $\tau$ , total lifetime of the level,  $\tau^*$ , lifetime of the level according to data from other papers,  $F$ , ratio between value of  $B(E2)^\uparrow$  measured in the experiments and value  $B(E2)_{\text{single particle}}$  calculated on the basis of the single-particle approximation.

Legend to the Figures: Instrumental  $\gamma$ -spectra, obtained in the case of Coulomb excitation with quadruple-charged  $\text{Ne}^{20}$  ions of phosphorus at 27.8 Mev (Fig. 1), of  $\text{S}^{35}$  at 23.2 Mev (Fig. 2); of Mn at 23.2 Mev (Fig. 3)- a without, b with lead filter, 1.25 mm thick; of Pr at 27.8 Mev (Fig. 4).

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B9247.

Coulomb excitation of the nuclear levels...

S/048/61/025/001/013/031  
B029/B060

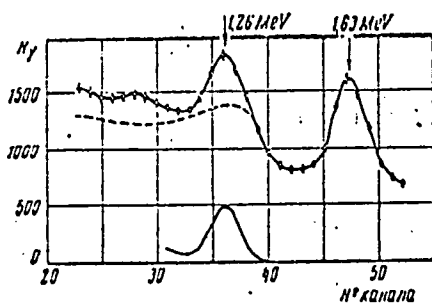


Fig. 1

Рис. 1. Аппаратурный спектр  $\gamma$ -лучей, полученных при кулоновском возбуждении фосфора четырехзарядными ионами  $\text{Ne}^{+4}$ .

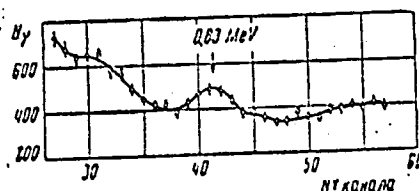


Fig. 2

Рис. 2. Аппаратурный спектр  $\gamma$ -лучей, полученных при кулоновском возбуждении  $\text{S}^{+4}$  четырехзарядными ионами  $\text{Ne}^{+4}$  с энергией 23,2 MeV.

89247

S/048/61/025/001/013/031  
B029/B060

Coulomb excitation of the nuclear levels...

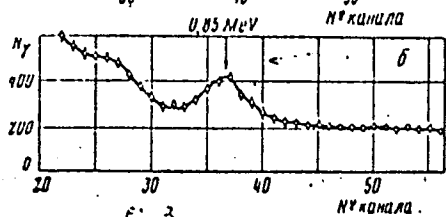
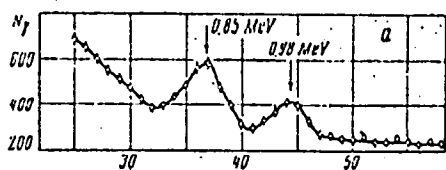


Fig 3

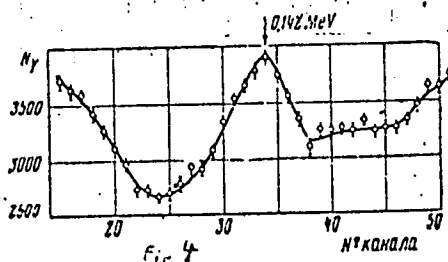


Fig 4

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26439

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B108/B209

24.6300

AUTHORS: Andreyev, D. S., Vasil'yev, V. D., Gusinskiy, G. M.,  
Yerokhina, K. I., and Lemberg, I. Kh.

TITLE: Study of the Coulomb excitation of nuclear levels with the  
aid of accelerated multiply charged ions

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 25,  
no. 7, 1961, 832 - 847

TEXT: This paper was read at the XI Annual Conference on Nuclear  
Spectroscopy in Riga, January 25 - February 2, 1961. The purpose of the  
studies was to improve the results of earlier work (Ref. 1: Andreyev, D.S.  
et al., Nucl. Phys., 19, 400 (1960); Ref. 2: Alkhazov, D. G. et al., Zh.  
eksperim. i teor. fiz., 37, 1530 (1959)) by the method of reference levels  
(Ref. 1) which consists in measuring the excitation cross section of a  
reference level before and after measuring the excitation cross section  
of the level to be investigated. The following nuclear levels were used  
as reference levels: 0.44 Mev of  $\text{Na}^{23}$  ( $B(E2)_{\uparrow} = 0.11 \cdot 10^{-48} \text{ e}^2\text{cm}^4$ ) for  
studying Li and B; 1.19 Mev of  $\text{Ni}^{62}$  ( $B(E2)_{\uparrow} = 0.085 \cdot 10^{-48} \text{ e}^2\text{cm}^4$ ) for  
Card 1/6

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S/048/61/025/007/001/005  
B108/B209

Study of the Coulomb...

studying Co; 0.76 Mev of  $\text{Se}^{76}$  ( $B(E2)\uparrow = 0.42 \cdot 10^{-48} \text{ e}^2\text{cm}^4$ ) for studying Mg, Ca, and Se; 1.15 Mev of  $\text{Sn}^{122}$  ( $B(E2)\uparrow = 0.26 \cdot 10^{-48} \text{ e}^2\text{cm}^4$ ) for studying In, Sb, and Ce; 1.60 Mev of  $\text{Ce}^{140}$  ( $\tau = 1.1 \cdot 10^{-13} \text{ sec}$ ) for studying the even Sn isotopes and  $\text{Ba}^{138}$ ; 0.16 Mev of  $\text{Ti}^{47}$  ( $B(E2)\uparrow = 0.040 \cdot 10^{-48} \text{ e}^2\text{cm}^4$ ) for studying  $\text{Sn}^{117}$ . The excitation probability,  $B(E2)\uparrow$ , was determined with an error of 15 - 20%. Tables 1 and 2 contain the results of measurements. In all these studies, the authors made use of the broadening of the energy band of multiply charged ions accelerated in the cyclotron at the FTI (Institute of Physics and Technology). Ne ions having 16 - 18 Mev were used for studying the nuclear levels of light elements such as Li and B, and were also successfully applied to exciting higher levels in light and medium elements ( $\text{Mg}^{25}$ ,  $\text{Mg}^{26}$ ,  $\text{Ca}^{44}$ ,  $\text{Co}^{59}$ ,  $\text{In}^{115}$ , and Sb). 52.5-Mev ions of N were able to excite the levels with energies of 1.4 - 1.6 Mev of heavier nuclei ( $\text{Ba}^{138}$  and  $\text{Ce}^{140}$ ). The nuclear levels of even-even isotopes were chiefly examined to complete the data on even-even nuclei and to compare results (Ref. 16: Kisslinger, Card 2/6



28439,  
S/048/61/025/007/001/005  
3108/3209

Study of the Coulomb...

L. S., Sørensen, R. A., Dansk. Mat.-Fys. Medd., 32, No. 9 (1960))  
(cf. Table 3). There are 16 figures, 3 tables, and 42 references:  
7 Soviet-bloc and 31 non-Soviet-bloc.

Table 1. Coulomb excitation of levels (spin  $2^+$ ) in even-even nuclei.

Legend: (1) Isotope, (2) level energy, Mev, (3) excitation probability,  
(4) level lifetime,  $10^{-13}$  sec, (5) ratio of  $B(E2)_{\uparrow}$  to the same quantity  
as estimated for a one-particle model (the nuclear radius in the calculations was assumed to be  $R_0 = 1.2 \cdot 10^{-13} A^{1/3}$  cm).

Table 2. Coulomb excitation of levels in nuclei with odd A and in odd-odd  $B^{10}$  nuclei.

Legend: (1), (2), (3) see Table 1, (6) nuclear spin in ground state,  
(7) nuclear spin in excited state, (8) partial lifetime of the level  
relatively to the electric quadrupole transition, sec.

Legend to Table 3: (1) Nucleus, (2) calculated value of  $B(E2)$  as taken  
from Ref. 16, (3) experimental value of  $B(E2)$ .

Card 3/6

~~ANDREYEV~~, D.S.; VASIL'YEV, V.D.; GUSINSKIY, G.M.; YEROKHINA, K.I.;  
LEMBERG, I.Kh.

Investigation of the Coulomb excitation of nuclear levels by the  
aid of accelerated multiply charged ions. Izv. AN SSSR. Ser.  
fiz. 25 no.7:832-847 J1 '61. (MIRA 14:7)  
(Nuclear reactions) (Ion beams)

ALKHAZOV, D.G.; ANDREYEV, D.S.; VASIL'YEV, V.D.; GANGRSKIY, Yu.P.;  
LEMBERG, I.Kh.; VDRALOV, Yu.I.

Studying the Coulomb excitation of the first levels of even-even nuclei by measuring coincidences of gamma quanta and inelastically scattered ions. Izv. AN SSSR. Ser. fiz. 27  
no.10:1285-1296 0 '63. (MIRA 16:10)

ANDREYEV, D.S.; GANGRSKIY, Yu.P.; LEMBERG, I.Kh.; NABICHVISHVILI, V.A.

Coulomb excitation of the first levels of the isotopes  $Pb^{204}$ ,  
 $Pb^{206}$ ,  $Pb^{207}$ , and  $Bi^{209}$ . Izv. AN SSSR. Ser. fiz. 29 no.12:  
2231-2234 D '65. (MIRA 19:1)

L 26655-66 EWT(m) DIAAP JD

ACC NR: AP6017118

SOURCE CODE: UR/0048/65/029/012/2231/2234

AUTHOR: Andreyev, D. S.; Gangrskiy, Yu. P.; Lemberg, I. Kh.; Nabichvrishvili, V. A.

ORG: none

TITLE: Coulomb excitations of lower levels in the isotopes Pb sup 204, sup 206, sup 207 and Bi sup 209 <sup>53</sup>  
 [This paper was presented at the 15th Annual Conference on Nuclear Spectroscopy and the Structure of the Atomic Nucleus, held in Minsk from 25 January to 2 February 1965] <sup>518</sup>

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 29, no. 12, 1965, 2231-2234

TOPIC TAGS: Coulomb excitation, lead, bismuth, nucleon, nitrogen cyclotron, magnetic field, gamma quantum, even nucleus, neutron proton

ABSTRACT: In order to determine the effective nucleon charge it is especially important to know transition probabilities for nuclei having one nucleon (or one hole) above the filled shell. Accurate data on this problem are lacking because the Coulomb output of the excited levels of such nuclei are very small even when bombardment particle energies are very high.

<sup>19</sup> Nitrogen ions ( $N^{14.5+}$ ) were accelerated in the FII cyclotron up to 66.5 Mev by enhancing the magnetic field. Gamma quanta ejected forward from a Bi-enriched lead target were recorded. Nitrogen ions of 66.5 Mev energy were used to study the Coulomb excitation of Pb<sup>207</sup> and Bi; and 63 Mev ions, for Pb<sup>204</sup> and Pb<sup>206</sup>.

Spectra of  $\gamma$ N-coincidence are shown in figures and the results of

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L 26655-66

ACC NR: AP6017118

2

Coulomb excitation are tabulated. These results are compared with those of other authors. The values of  $B(E2)$  are adversely affected by inadequate correction for angular correlation, and though the error is not more than 25% for the 0.57 Mev level of  $Pb^{207}$ , it reaches 35 to 40% for the 0.89 Mev level of  $Pb^{207}$  and the 0.91 Mev level of  $Bi^{209}$ . The effective neutron charge is found to be close to unity, whereas that for the proton is unexpectedly large: 2.6 to 3.0. Speculations are advanced briefly on the effect of level excitation by giant resonance and effects of possible secondary processes. The general rule is drawn: for spherical even-even nuclei the farther the closed shell is from the nucleus, the lower is the energy of the first  $2+$  level and the greater is the value of  $B(E2)$  for the transition to this level; but this rule does not hold completely for even isotopes of lead. Orig. art. has: 4 figures, 1 formula, and 1 table. [JPRS]

SUB CODE: 20 / SUM DATE: none / ORIG REF: 002 / OTH REF: 006

Card 2/2 *RV*

SHELEST, L.A.; ANDREYEV, D.T.

Mining dipping seams with the use of square-set timbering. Gor.  
zhur. no.2:33-34 F'55. (MLRA 8:7)  
(Mine timbering)

ANDREYEV, D.Ya.; VASSERMAN, L.K.

Economic efficiency of the optimization of operating conditions of atmospheric-vacuum tubestills in the case of complex automation. Khim. i tekhn. topl. i masel 8 no.6:36-41. Ja '63.  
(MIRA 16:6)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti im. akademika Gubkina.

(Volgograd--Petroleum refineries--Equipment and supplies)

(Automation)



ANDREYEV, D.Ya.

Enrichment of pumped petroleum. Izv.vys.ucheb.zav.; neft' i gaz  
6 no.9:107-109 '63. (MIRA 17:2)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennos-  
ti im. akademika I.M.Gubkina.

ANDREYEV, D.Ya.

Optimizing the operation of processing units for the refining of  
petroleum. Izv. vys. ucheb. zav.; neft' i gaz 8 no.3:109-113 '65.  
(MIRA 18:5)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti  
im. akademika I.M. Gubkina.

ANDREYEV, D.Ya.; ISKREBS, A.D.; VOIKOVA, I.I.; BERLANTSEV, M.V.

Economic effectiveness of capital investments in the production,  
gathering, and refinement of petroleum gas. Gaz. selo no.6450-63  
'65. (NIMA 18:8)

1. Moskovskiy ordena Trudovogo krasnogo Znameni Institut neftekhimi-  
cheskoy i gazovoy promyshlennosti im. akademika Gubkina.

ANDREYEV, D.Ya.

Basic tendencies in the use of petroleum products and problems  
the petroleum refining industry. Trudy MINKHOG no.19,  
77-81 '65. (MIRA 12:8)

ANDREYEV, E., uchitel' khimii

Conducting demonstration experiments in the study of the  
chemical properties of oxygen. Khim.v shkole 14 no.3:93  
My-Je '59. (MIRA 12:9)

1. Srednyaya shkola pos.Pushkinskiye Gory Pskovskoy obl.  
(Chemistry--Study and teaching) (Oxygen)

FAYZULLIN, A.M., inzh.; FODKOPAYEV, P.A., inzh.; ANDREYEV, E.K., inzh.

Pneumatic ejector charger for charging holes with lydanite. Gor.znur.  
no.1:45-47 Ja '65. (MIRA 18:3)

FAYZULLIN, A.M., inzh.; PODKOPAYEV, P.A., inzh.; ANDREYEV, E.K., inzh.

Compressed air charger for charging boreholes and blastholes.  
Shakht.stroi. 9 no.4:24-26 Ap '65. (MIRA 18:5)

ACC NR: AR6033921 SOURCE CODE: UR/0196/66/000/007/I003/I003

AUTHOR: Ignatov, V. A.; Andreyev, E. V.

TITLE: Some problems in the designing of end-type induction motors using printed windings

SOURCE: Ref. zh. Elektrotehnika i energetika, Abs. 7114

REF SOURCE: Tr. Vses. zaochn. energ. in-ta, vyp. 29, 1965, 126-135

TOPIC TAGS: electric motor, conductor, printed winding

ABSTRACT: A method is given for calculating the dimensions of the printed winding of an end-type electric motor with evolute shaped front sections. The external and internal diameters of the plate, the number of conductors  $n$  in the winding, the minimal width of conductor  $b_{min}$  and the minimal distance between two adjacent conductors  $b_{min}$  are given in the calculation. First, the diameter of the base circumference of the front section evolute is determined by the formula

$$d = \frac{n(b_{min} + b_{min})}{\pi}$$

Card 1/2

UDC: 621.3.045.049.75



ANDREYEV, F., inzhener; KOLOMEYTSSEV, L., inzhener.

Making and assembling channel blocks. Stroitel' no.1:  
11 Ja '57.

(MLRA 10:2)

(Building blocks) -

ANDREYEV, F. (g.Saratov); TSENTSIPER, I. (g.Saratov); BOKOVA, Ye. (g.Saratov)

Machine for transporting cylinders of liquid gas. Zhil.-kom. khoz.  
11 no.2:26-27 F '61. (MIRA 14:5)

(Liquified petroleum gas--Transportation)

ANDREYEV, P., inzh. (Saratov); NEZHINSKAYA, N., inzh. (Saratov);  
KUZNETSOV, A., inzh. (Saratov)

Gas appliances for collective farms. Zhil.-kom. khoz. 12 no.5:  
10-11 My '62. (MIRA 15:10)

(Gas appliances)

ANDREYEV, F. A.

Geometry - Study and Teaching

Development of logical thinking in students and solution of "proof" problems in the 6th and 7th grades. *Zh. v shkole* No. 1, 1953.

Monthly List of Russian Accessions, Library of Congress, June 1953. Uncl.

KOTEL'NIKOV, N.V.; MATYASH, R.N.; ANDRUYEV, F.G.; SERDYUKOV, N.P.

Making concrete wall blocks with flues in construction yards  
[Suggested by N.V. Kotel'nikov and others]. Rats. i izobr.  
predl. v stroi. no.6:14-19 '58. (MIRA 11:10)  
(Concrete blocks)

KOTEL'NIKOV, N.V.; ~~ANDREYEV, F.G.~~; MATYASHA, R.N.; SYSOYEV, G.N.;  
DEKAMILLI, G.M.

Large panels made of reinforced expanded clay concrete [Suggested  
by N.V. Kotel'nikov and others]. Rats. i izobr. predl. v stroit.  
no.6:7-11 '58. (MIRA 11:10)  
(Concrete slabs) (Ceilings)

ANDREYEV, F.G.; TSENTSIPER, I.A.; BOKOVA, Ye.M.

Tank truck for the transportation of liquefied gases.  
Gaz. prom. 6 no. 1:32-35 '61. (MIRA 14:1)  
(Liquefied gases—Transportation)





VASIN, F.F. Prinsipal uchastiye ANDREYEV, F.I.; CHERNUSHEVICH, V.A.,  
inzh., retsenzent

[Characteristics of the accounting, calculation, and analysis  
of the cost of casting] Osobennosti ucheta, kulirovaniia  
i analiza sebestoimosti otливok. Moskva, Izd-vo "Mashino-  
stroenie," 1964. 90 p. (MIRA 17:7)

SERGEYEV, S.V.; ANDREYEV, F.I.

Choice of network parameters for the connection of control  
windings of amplidyne in generator-motor systems. Trudy  
Ural. politekh. inst. no. 138:173-181 '64 (MIRA 19:1)

TSVETKOV, V.N., kand.tekhn.nauk dots.; ANDREYEV, F.S., inzh.

Construction parameters for fastening porous rubber soles with  
nylon threads. Izv.vys.ucheb.zav.; tekhn.prom. no.5:85-94  
'59. (MIRA 13:4)

1. Moskovskiy tekhnologicheskii institut legkoy promyshlennosti.  
Rekomendovana kafedroy tekhnologii obuvnogo proizvodstva.  
(Boots and shoes, Rubber) (Nylon)

TSVETKOV, V.N., kand.tekhn.nauk, dotsent; ANDREYEV, F.S., inzh.

Efficient parameters for the fastening of porous rubber soles with  
nylon threads. Report No.2. Izv.vys.ucheb.zav.; tekhn.prom.  
no.1:85-96 '60. (MIRA 14:5)

1. Moskovskiy tekhnologicheskii institut legkoy promyshlennosti.  
Rekomendovana kafedroy tekhnologii obuvnogo proizvodstva.  
(Boots and shoes, Rubber)

ANDREYEV, G., polkovnik; RUMYANTSEV, Ye., polkovnik

Decorations are presented to the brave, Voenn. znan. 41 no.1:  
10 Ja '65. (MIRA 18:2)

ANDREYEV, G. Engineer

7  
"Reserves for Increasing the Productivity of Labor," Zh-d. Transport,  
No. 2, 1945.

Asst. Chief, Dept. of Road  
X

ANDREYEV, G.

Organize the technical operation of engineering structures in sea harbors. Mor. flot 22 no.7:7-9 JI '62. (MIRA 15:7)

1. Nachal'nik tekhnicheskogo otdela Leningradskogo instituta po proyektirovaniyu morskikh protov i sudoremontnykh predpriyatiy.  
(Harbors--Equipment and supplies)

ANDREYEV, G.

Andreyev, G. - "On the 'terminology and concepts of soil science' by the Academician Prasclov," (In connection with the article of L. I. Prasolov entitled 'Words and Conceptions of Soil Science' published in 'Pochvovedeniye' 1948, No 1), Selekttsiya i semenovodstvo, 1949, No 6, p. 72-79

SO: U-5240, 17, Dec. 53, (Letopis 'Zhurnal 'nykh Statey, No. 25, 1949).



1. ANDREYEV, G.
2. USSR (600)
4. Cotton Gins and Ginning
7. Double-level auger-type gin. Khlopkovoistvo no 8, 1952

9. Monthly List of Russian Accessions, Library of Congress, January 1953. Unclassified.

ANDREYEV, G.

Introduce new machinery continuously in the granaries of the Chuvash  
A.S.S.R. Muk.-elev. prom. 28 no.2:5-6 F '62. (MIRA 15:3)

1. Zamestitel' nachal'nika Chuvashskogo respublikanskogo  
upravleniya zagotovok.  
(Chuvashia--Grain--Storage)

GAN'ZHIN, V.; FILIPPOVICH, B.; ANDREYEV, G.

Problems in the management and organization of work at grain receiving enterprises. Muk.-elev. prom. 28 no.8:20-22 Ag '62. (MIRA 17:2)

1. Nachal'nik proizvodstvenno-tekhnicheskogo otdela Orenburgskogo upravleniya khleboproduktov (for Gan'zhin). 2. Glavnyy agronom Petropavlovskogo elevatora (for Filippovich). 3. Zamestitel' direktora po kachestvu Tankerisskogo khlebopriyemnogo punkta TSelinogradskoy oblasti (for Andreyev).

ANDREYEV, G., agronom po zashchite rasteniy (Kirovogradskiy rayon, Poltavskoy oblasti); MISKOVY, B., agronom (Kirovogradskiy rayon, Poltavskoy oblasti); GOFMAN, D.

More on packaging. Vashch. rast. ot vred. i bel. 10 no.10:16 '65.  
(MIRA 18:12)

1. Staryiy agronom po zashchite rasteniy Gogol'skogo rayonnogo ob'yedineniya "Kol'khozstokimoz" (for details).